**WHAT YOU NEED TO KNOW FOR THE BIODIVERSITY UNIT TEST!!**

* Six Kingdoms of Life
* Taxonomy
* Dichotomous Keys and Spider Keys (creating and interpreting)
* Bacteria (structure, different shapes, characteristics, staining, diseases, reproduction, respiration)
* Viruses (structure, types, characteristics, reproduction, viral infections)
* Protists (general characteristics, types, reproduction, diseases)
* Fungi (all information from our powerpoint and notes and chart from textbook)
* Plants (note and phyla!!)
* Animals – notes and homework!

**QUESTIONS:**

**Intro to Diversity**

1. Identify the six kingdoms under which organisms are classified, and provide an example organism from each kingdom.
2. What is a phylogenetic tree?
3. Refer to the phylogenetic tree to answer the following questions:

a. how many clades exist in this phylogenetic tree?

SEAL

BAT

RAT

RABBIT

MONKEY

b. what do each of the branching points on the tree represent?

c. which is more closely related: the bat and the monkey, or the rabbit and monkey. Explain why.

1. There are three criteria used to classify organism. What are they?
2. Here’s some info about the gray wolf:

Animalia

Chordata a. What order does the wolf belong to?

Mammalia

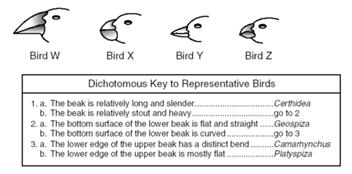
Carnivora b. Name this organism, using the rules of

Canidae binomial nomenclature.

*Canis* c. Would you expect this organism to be in the

*lupus*  same phylum as a sea sponge? Why or why not?

6. Identify each bird using the dichotomous key below.



7. Are Eubacteria and Archaea prokaryotes or eukaryotes? Explain.

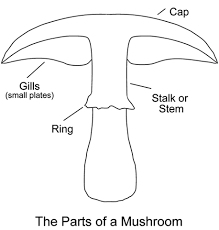
8. In terms of cell type, cell number, and nutrition, compare Kingdom Fungi and Kingdom Plantae.

**Bacteria and Viruses**

1. Explain how the gram stain is used to classify bacteria.
2. Compare the organization and location of DNA in eukaryotes and prokaryotes.
3. A strain of bacteria is found to exist in pairs of rod shaped cells. What would you call these bacteria?
4. What is one similarity and one difference between conjugation and transformation.
5. Explain the difference between obligate and facultative aerobes.
6. In terms of structure and function, compare and contrast the pili and flagella.
7. Provide an example of an extreme environment in which archaea exist.
8. Outline the steps of the lytic cycle (draw a diagram to help you).
9. Describe the differences between the lytic and lysogenic cycle.
10. What two components are all viruses composed of?
11. What is a bacteriophage?
12. What two basic shapes do viruses take?
13. How does a vaccine work?
14. According to data from the WHO, what relationship exists between the % of individuals immunized and the incidence of measles?
15. Describe two viral infections, and two bacterial infections.
16. Explain what it means to be antibiotic resistant, and how this could lead to a major health crisis.

**Protist and Fungi**

1. What group of protists are characterized as having silica shells?
2. Malaria is a disease in humans that causes more than a million deaths per year.
   1. explain how Malaria is spread
   2. identify the specific protist that causes malaria
3. Distinguish between green algae, red algae, and brown algae.
4. Explain what specific components of a euglena make it both heterotrophic and autotrophic.
5. Identify three methods by which animal-like protists can move.
6. In relation to parasitic protists, what does the term “vector” refer to? Provide an example of a vector, name the protist is carries, and the illness that results.
7. In terms of cell type and cell walls, compare fungi with plants.
8. Explain how fungi digest their food.
9. Outline the role of spores in fungal reproduction.
10. To what phylum of fungi do yeast commonly belong?
11. To what phylum do puffballs and mushrooms belong?
12. Identify the reproductive structure of this mushroom.



**Plants**

1. What does it mean to be diploid?
2. Differentiate between a sporophyte and a gametophyte.
3. Describe one benefit of the alternation of generations in a plant’s life cycle.
4. What two phyla contain seedless vascular plants?
5. What type of plant phyla produces flowers?

**Animals**

* + - 1. What are the three germ layers?
      2. What are the 5 characteristics scientists use to classify animals?
      3. Describe characteristics of porifera. How do they eat? How do they reproduce?
      4. Describe characteristics of cnidaria. How do they eat? How do they reproduce?

**Your Test is on Friday March 3, 2017**